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DNC C1999-139328 [40]

DNN N1999-354362 [40]

TI Manufacture of fine spherical silica for insulating materials – involves heat treating crude silica raw material and extracting pure spherical silica fine particles with pure water

DC L03; X12

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CYC 1

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AB JP 11199218 A UPAB: 20050829

NOVELTY – The mean particle diameter of the crude silica raw material is 2 μ m or less. The heat treated crude silica raw material having 50 ppm or more of alkali metal element, is extracted using pure water at 95 $^{\circ}$ C for 20 hours, in the presence of oxygen. Subsequently, it is washed with mineral acid and fine spherical silica having 20 ppm or less of alkali metal is extracted.

DETAILED DESCRIPTION – The mean particle diameter of spherical crude silica raw material is 2 μ m or less. The crude silica raw material having 50 ppm or more of alkali metal elements is heat treated at a temperature of more than 500 $^{\circ}$ C. The heat treated silica raw material is extracted using pure water at 95 $^{\circ}$ C for 20 hours, in the presence of oxygen. Subsequently, the raw material is washed with mineral acid aqueous solution. Fine spherical silica having 20 ppm or less of alkali metal element, is extracted using pure water.

USE – For insulating materials (claimed) and semiconductor sealing material. The fine spherical silica is used as a filler for coating material or as spacer for liquid crystals.

ADVANTAGE – Highly pure fine spherical silica is obtained inexpensively.

MC CPI: L03-A

EPI: X12-E01X